

10/27/03

POROUS POLYVINYL ALCOHOL HYDROGEL MICROSPHERE

Patent Number: JP62045637
Publication date: 1987-02-27
Inventor(s): GEN JIYOUKIYUU; others: 01
Applicant(s): BIO MATERIARU YUNIBAASU:KK
Requested Patent: ☐ JP62045637
Application Number: JP19850186469 19850824
Priority Number(s):
IPC Classification: C08J9/28
EC Classification:
Equivalents:

Abstract

PURPOSE:The titled microspheres of a high strength, a high modulus and a high water content, obtained by freezing an aqueous PVA solution in the form of water drops dispersed in a specified dispersing medium and crystallizing the polymer at a low temperature.

CONSTITUTION:An aqueous PVA solution kept in the form of water drops is obtained by pouring an aqueous solution containing 5-40wt% PVA of a degree of saponification $\geq 95\text{mol}\%$ and an average degree of polymerization $\geq 1,000$ into a dispersing medium such as a water-immiscible organic solvent (e.g., benzene) or an oil (e.g., silicone oil) with agitation at a speed of 200rpm. This aqueous PVA solution is frozen by cooling to -5 deg.C or below for at least 5hr, and the polymer phase of PVA is isolated to obtain a frozen-phase molecular structure. This structure is left standing at $0-10\text{ deg.C}$ for at least 10hr to crystallize the polymer phase. In this way, high-strength, high-water content, porous PVA gel microspheres of a diameter of $0.1\text{mm}-1\text{mm}$, a pore diameter of $0.01-50\text{mm}$, a water content of $40-95\text{wt}\%$ and a compressive strength $\geq 10\text{kg/cm}^2$ are obtained.

Data supplied from the esp@cenet database - I2